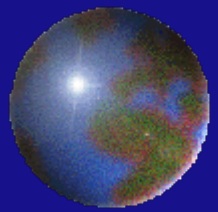

Recharge for Assaying Potency of Novel Vaccines

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October 12, 2005

Thank you to co-sponsors

- Co-organizers
  - WHO
  - IAVI
  - FDA/CBER
  - DMID
  - VRC
  - DAIDS
- Co-funders
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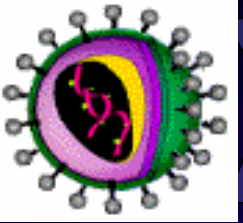
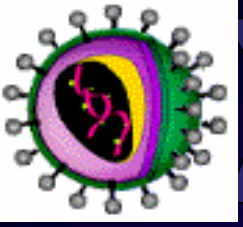
Steering Committee

- **Thank you to Scientific Steering Committee**
  - Chris Butler, Stuart Shapiro, DAIDS
  - Rick Koup, VRC
  - Christine Sizemore, Nick Obiri, DMID
  - Hana Golding, Lev Sirota, FDA/CBER
  - Vera Byrnes, IAVI
  - Saladin Osmanov, WHO
  - Harriett Robinson, Emory
  - John Lewis, formerly of Merck



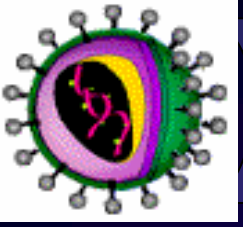
Purpose of Workshop

- To develop consensus on general questions
- To identify research gaps that preclude consensus from being reached



APNV questions

- Does vector replication (titer) and in vitro expression correlate sufficiently with immunogenicity to use these two surrogates for vector vaccine potency, or the latter for plasmid vaccine potency?
- How should potency of vaccines that will only be used in combination (i.e., heterologous prime-boost) be measured, since neither vaccine alone can result in protective efficacy? (Releasing a lot of vaccine predicated on another lot of a different vaccine would be problematic)



APNV Questions (2)

- For vaccines that are proposed to protect because they induce humoral immunity, what type of assay should be used (neutralization?) and against what targets (e.g., a panel of HIV viruses, the vaccine immunogen)? If neutralization potency must be demonstrated against a panel of viruses/malaria immunogens, how will specifications be set (must similar quantitative values be obtained with each lot for each member of the panel?)
- For vaccines that are proposed to protect because they induce cellular immunity, which assay should be used? Against what targets/antigens (e.g., multiple malaria proteins; multiple clades of HIV; HIV, TB, and malaria antigens for multi-valent products)? How quantitative are these assays ("suitably" as defined by the International Conference on Harmonisation in their Q5C and Q6B documents)?

APNV Questions (3)

- Can in vitro assays rather than bioassays be developed?
- What species should be used for the bioassays? (Does this depend on the assay – i.e., for cellular vs. humoral?)